SOL Instruction Tracking Form
Grade 5 Science

Place the SOL Instruction Tracking Form after the VGLA Collection of Evidence (COE) Coversheet. Use the SOL Instruction Tracking Form to track the evidence collected for submission.

4.1 The student will plan and conduct investigations in which		
a)		distinctions are made among
		observations,
		conclusions,
		inferences, and
		predictions;
b)		hypotheses are formulated based on cause-and-effect relationships;
c)		variables that must be held constant in an experimental situation are defined;
d)		appropriate instruments are selected to measure
		linear distance,
		volume,
		mass, and
		temperature;
e)		appropriate metric measures are used to
		collect,
		record, and
		report data;
f)		data are displayed using
		bar and
		basic line graphs;
g)		numerical data that are contradictory or unusual in experimental results are recognized; and
h)		predictions are made based on data from
		picture graphs,
		bar graphs, and
		basic line graphs.
5.1 The student will plan and conduct investigations in which		
a)		rocks are identified using a classification key,
		minerals are identified using a classification key, and
		organisms are identified using a classification key;
b)		estimations of
		length,
		mass, and
		volume are made;
c)		appropriate instruments are selected and
		appropriate instrument is used for making quantitative observations of
		length,
		mass,
		volume, and
		elapsed time;

d)		accurate measurements are made using basic tools
		thermometer,
		meter stick,
		balance,
		graduated cylinder;
e)		data are
		collected,
		recorded, and
		reported using the appropriate graphical representation
		graphs,
		charts,
		diagrams;
f)		predictions are made using patterns, and
		simple graphical data are extrapolated;
g)		manipulated and responding variables are identified; and
h)		an understanding of the nature of science is developed and reinforced.
4.2 The student will investigate and understand characteristics and interaction of moving objects. Key concepts include		
a)		motion is described by an object's direction and speed;
b)		forces cause changes in motion;
c)		friction is a force that opposes motion; and
d)		moving objects have kinetic energy.
4.3 The student will investigate and understand the characteristics of electricity. Key concepts include		
a)		conductors and
		insulators;
b)		basic circuits
		open/closed,
		parallel/series;
c)		static electricity;
d)		the ability of electrical energy to be transformed into
		heat energy,
		light energy, and
		mechanical energy;
e)		simple electromagnets,
		magnetism; and
f)		historical contributions in understanding electricity.
5.2 The student will investigate and understand how sound is transmitted and is used as a means of communication. Key concepts include		
a)		frequency,
		waves,
		wavelength,
		vibration;
b)		the ability of different media to transmit sound:
		solids,
		liquids,
		gases; and

c)		uses and applications
		voice,
		sonar,
		animal sounds, and
		musical instruments.
5.3 The student will <u>investigate</u> and <u>understand</u> basic characteristics of visible light and how it behaves. Key concepts include		
a)		the visible spectrum and light waves;
b)		refraction of light through
		water and
		prisms;
c)		reflection of light from reflective surfaces (mirrors);
d)		opaque,
		transparent,
		translucent; and
e)		historical contributions in understanding light.
5.4 The student will investigate and understand that matter is anything that has mass, makes up space, and occurs as a solid, liquid, or gas. Key concepts include		
a)		atoms,
		elements,
		molecules, and
		compounds;
b)		mixtures including solutions; and
c)		the effect of heat on the states of matter.
4.4 The student will investigate and understand basic plant anatomy and life processes. Key concepts include		
a)		the structures of typical plants
		leaves,
		stems,
		roots, and
		flowers;
b)		processes and structures involved with reproduction
		pollination,
		stamen,
		pistil,
		sepal,
		embryo,
		spore, and
		seed;
c)		photosynthesis
		sunlight,
		chlorophyll,
		water,
		carbon dioxide,
		oxygen, and
		sugar;
d)		dormancy

4.5 The student will investigate and understand how plants and animals in an ecosystem interact with one another and the nonliving environment. Key concepts include		
a)		behavioral and
		structural adaptations;
b)		organization of communities;
c)		flow of energy through food webs;
d)		habitats and
		niches;
e)		life cycles and
f)		influence of human activity on ecosystems.
4.8 The student will investigate and understand important Virginia natural resources. Key concepts include		
b)		animals and
		plants;
5.5 The student will investigate and understand that organisms are made of cells and have distinguishing characteristics. Key concepts include		
a)		basic cell
		structures and
		functions;
b)		kingdoms of living things;
c)		vascular and
		nonvascular plants; and
d)		vertebrates and
		invertebrates.
4.6 The student will investigate and understand how weather conditions and phenomena occur and can be predicted. Key concepts include		
a)	weather measurements and meteorological tools	
		air pressure – barometer,
		wind speed – anemometer,
		rainfall – rain gauge, and
		temperature – thermometer;
b)	weather phenomena	
		fronts,
		clouds, and
		storms.
4.7 The student will investigate and understand the relationships among the Earth, moon, and sun. Key concepts include		
a)		the motions (revolution and rotation) of the
		Earth,
		moon, and
		sun;
b)		the causes for the Earth's seasons and
		phases of the moon;

c)		the relative size, position, age, and makeup of the
		Earth,
		moon, and
		sun;
d)		historical contributions in understanding the Earth-moon-sun system
4.8 The student will investigate and understand important Virginia natural resources. Key concepts include		
a)		watershed and
		water resources;
c)		minerals,
		rocks,
		ores, and
		energy sources;
d)		forests
		soil, and
		land.
5.6 The student will investigate and understand characteristics of the ocean environment. Key concepts include		
a)		geological characteristics
		continental shelf,
		slope,
		rise;
b)		physical characteristics
		depth,
		salinity,
		major currents;
c)		biological characteristics (ecosystems).
5.7 The student will investigate and understand how the Earth's surface is constantly changing. Key concepts include		
a)		the rock cycle including identification of rock types;
b)		Earth history and
		fossil evidence;
c)		the basic structure of the Earth's interior;
d)		plate tectonics
		earthquakes and
		volcanoes;
e)		weathering and erosion;
f)		human impact.

Submit Quarterly to the building level administrator/designee for review:

Date Submitted/Initials	Date Submitted/Initials	Date Submitted/Initials	Date Submitted/Initials